

CLAIMS

1. A method of producing a protein degradation product, comprising:
treating a protein with a protease in the presence of a sulfonic acid
5 compound.
2. The method according to claim 1, wherein the protein is treated with
the protease in the presence of the sulfonic acid compound and a nitro
compound.
10
3. The method according to claim 1, wherein the sulfonic acid compound
is at least one selected from the group consisting of sodium lauryl sulfate,
dodecylbenzenesulfonic acid sodium salt, lithium lauryl sulfate,
4-aminoazobenzene-4'-sulfonic acid sodium salt,
15 4-amino-4'-nitrostilbene-2,2'-disulfonic acid disodium salt,
4,4'-diazidostilbene-2,2'-disulfonic acid disodium salt,
N-cyclohexyl-2-aminoethane sulfonic acid, N-cyclohexyl-3-aminopropane
sulfonic acid, N-cyclohexyl-2-hydroxy-3-aminopropane sulfonic acid,
piperazine-1,4-bis(2-ethane sulfonic acid) and bathophenanthroline sulfonic
20 acid.
4. The method according to claim 2, wherein the nitro compound is at
least one selected from the group consisting of 2,4-dinitrophenol,
2,5-dinitrophenyl, 2,6-dinitrophenyl, 4,6-dinitro-2-methyl phenol,
25 2-amino-4-nitrophenol, 2-amino-5-nitrophenol, 2-amino-4-nitrophenol,
p-nitrophenol, 2,4-dinitroaniline, p-nitroaniline, sodium nitrite, potassium
nitrite, 4-Amino-4'-nitrostilbene-2,2'-disulfonic Acid Disodium Salt and
nitrobenzene.
30
5. The method according to claim 1, wherein the protease is
metalloproteinase.
6. The method according to claim 1, wherein the protein is a glycated
protein.
35
7. A method of measuring a glycated protein, in which an amount of the
glycated protein is determined by treating a sample containing the glycated

protein with a protease so as to degrade the glycated protein, allowing a glycated portion of a glycated protein degradation product obtained by the degradation and a fructosyl amino acid oxidase to react with each other, and measuring this redox reaction, the method comprising:

- 5 carrying out the protease treatment in the presence of a sulfonic acid compound.
8. The method according to claim 7, wherein the protease treatment is carried out in the presence of the sulfonic acid compound and a nitro compound.
- 10
9. The method according to claim 7, wherein the sulfonic acid compound is at least one selected from the group consisting of sodium lauryl sulfate, dodecylbenzenesulfonic acid sodium salt, lithium lauryl sulfate, 4-aminoazobenzene-4'-sulfonic acid sodium salt, 4-amino-4'-nitrostilbene-2,2'-disulfonic acid disodium salt, 4,4'-diazidostilbene-2,2'-disulfonic acid disodium salt, N-cyclohexyl-2-aminoethane sulfonic acid, N-cyclohexyl-3-aminopropane sulfonic acid, N-cyclohexyl-2-hydroxy-3-aminopropane sulfonic acid, 20 piperazine-1,4-bis(2-ethane sulfonic acid) and bathophenanthroline sulfonic acid.
- 15
10. The method according to claim 7, wherein the nitro compound is at least one selected from the group consisting of 2,4-dinitrophenol, 2,5-dinitrophenyl, 2,6-dinitrophenyl, 4,6-dinitro-2-methyl phenol, 2-amino-4-nitrophenol, 2-amino-5-nitrophenol, 2-amino-4-nitrophenol, p-nitrophenol, 2,4-dinitroaniline, p-nitroaniline, sodium nitrite, potassium nitrite, 4-Amino-4'-nitrostilbene-2,2'-disulfonic Acid Disodium Salt and nitrobenzene.
- 25
- 30
11. The method according to claim 7, wherein the protease is metalloproteinase.
12. The method according to claim 7, wherein the redox reaction is measured by determining an amount of hydrogen peroxide generated by the reaction of the glycated portion of the glycated protein degradation product and the fructosyl amino acid oxidase.
- 35

13. The method according to claim 12, wherein the amount of the
hydrogen peroxide is determined by using an oxidase to reduce the generated
hydrogen peroxide and oxidize a substrate that develops color by oxidation
5 and measuring a degree of the color that the substrate has developed.

14. The method according to claim 13, wherein the degree of the color is
measured by measuring an absorbance at a wavelength for detecting the
substrate.

10